



Canada Revenue
Agency

Agence du revenu
du Canada

TAX GAP FOR FEDERAL EXCISE DUTY ON CIGARETTES

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EXECUTIVE SUMMARY

In April 2016, the Government of Canada committed to estimating the federal tax gap to encourage an open and transparent discussion on tax non-compliance. Acting on this commitment, a dedicated unit was established at the Canada Revenue Agency (CRA) to examine and publish a series of reports analyzing different components of the federal tax gap. Building on previously published tax gap reports, this report examines tax non-compliance related to federal excise duties, taxes, and other specific levies.

The objective of this report is to estimate federal excise duties revenue loss from illegal production/smuggling of cigarettes¹ (also referred in this report as the federal cigarette duty gap). In fact, illegal production/smuggling of cigarettes by unlicensed manufacturers is regarded as the main source of tax loss in relation to federal excise duties, taxes, and other specific levies in Canada (see section 2.3 for more details). For example, there are well-documented instances of an active illegal market of tobacco products in Canada and cigarette duties typically account for about 90% of the excise duty revenue from tobacco products for the federal government. This report does not estimate non-compliance for other products subject to excise duties, taxes, and other specific levies because there is limited scope for significant illegal production.² To be consistent with CRA's previous tax gap reports, the federal cigarette duty gap is estimated for tax year 2014. In addition, the results presented in this report do not take into consideration CRA's audit results and, therefore, represent the gross tax gap. In fact, there are no tax audits for unregistered/non-filers from the illegal sector.

While the focus of this report is to estimate the federal cigarette duty gap, it begins by providing an overview of Canada's overall excise regime. This not only helps Canadians to better understand excise duties, taxes, and other specific levies in Canada, it also establishes a baseline for future publications on other federal excise gaps. For example, the federal tax gaps related to cannabis excise duty and fuel charge are outside of the scope of this report since they were introduced in 2018 and 2019, respectively. However, they will be examined in a future tax gap report when we analyze these tax years.

¹ Throughout this report, the term "cigarettes" also includes roll-your-own (RYO) cigarettes.

² This is due, in part, to the nature of the commodity (e.g. weight, volume, variety, consumer demand elements, and higher costs related to production) and the required production infrastructure, which is difficult to conceal from the authorities.

Background on Excise Duties, Taxes, and Other Specific Levies

This report begins by providing a brief overview of the excise duties, taxes, and other specific levies in Canada, including the main obligations of excise licensees and registrants (see section 2.1 and Annex 1 for more details). Descriptive statistics are also presented for 2018-19.

- Excise duties, taxes, and other specific levies are a relatively small source of tax revenue for the federal government accounting for around \$12.1 billion in federal revenue, or about 4% of all federal tax revenue.
- Excise taxes on gasoline and excise duties on tobacco products generated nearly 65% of the excise duty and tax revenue for the federal government.

Estimating the Federal Cigarette Duty Gap

This report estimates the excise duty gap for cigarettes using two methods which rely on administrative tax data and external data sources. Based on the first method called **gap analysis**, the federal excise duty gap for cigarettes was estimated to be about \$483 million for tax year 2014. An alternative approach, an **econometric model** was also used to estimate the gap. This second method uses an economic model based on an approach used in a C.D. Howe Institute study (2017) and which estimated the federal cigarette duty gap to be about \$490 million for tax year 2014. Since the two estimates are relatively close in dollar value, an average was used (each was given equal weight).

Therefore, the federal cigarette duty gap is estimated to be around \$486 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.

CRA's Compliance Efforts in the Tobacco Industry

For the tobacco industry, the CRA works with provinces/territories as well as other federal organizations such as the Canada Border Services Agency (CBSA) and the Royal Canadian Mounted Police (RCMP) to support compliance activities.

- The CRA plays a key role in Canada's Tobacco Strategy, which is a comprehensive federal initiative led by Health Canada to reduce tobacco consumption among Canadians.
- The vast majority of tobacco licensees comply with their tax obligations.
- The CRA works with federal partners, including the CBSA and the RCMP to provide support and assistance in their efforts to combat contraband tobacco.

Conclusion

The CRA is committed to improving its tax gap methodologies to leverage all of the data and methods available to create more accurate and pertinent estimates. In addition to this report, the CRA is also releasing a companion paper which calculates the payment tax gaps for income taxes (personal and corporate), the GST/HST and excise duties, taxes and other specific levies taxfilers for a particular taxation year. In 2021, an overall tax gap report will bring together all the components examined to date and update the tax gap figures up to tax year 2017. This overall tax gap report will also provide additional information on the impact of CRA audits in reducing the overall tax gap. Through an ongoing effort to understand different components of Canada's tax gap, the CRA will continue to preserve the integrity of the tax system and protect Canada's revenue base, which supports programs and benefits that improve the quality of life for all Canadians.

1. INTRODUCTION

The tax gap represents the difference between the taxes that would be paid if all obligations were fully met in all instances, and the tax actually paid and collected. The tax gap is a result of both intentional and unintentional actions ranging from deliberately hiding income to honest mistakes. In addition, changes to tax rules and economic events can affect the tax gap. For example, changes to a tax form can improve reporting compliance, while increased bankruptcies in a recession can make payment compliance worse. Therefore, tax gap levels are not fully under the control of the government. This also means that not every dollar of the tax gap can be collected (i.e., the tax gap will never be zero). However, the CRA's compliance and outreach activities can help to reduce the federal tax gap in Canada.

The publication of tax gap estimates and their corresponding methodologies provide valuable information to the Government of Canada and the public on tax non-compliance and help deliver on the Government's commitment to transparency. Understanding how and why taxpayers are non-compliant is critical to help preserve the integrity of the tax system and to protect Canada's revenue base, which supports programs and benefits that improve the quality of life for all Canadians.

Given the complexity of tax gap estimation, the CRA has taken a step-by-step approach to develop appropriate and robust estimation methodologies that work within the Canadian context. Since 2016, the CRA has published five tax gap reports:

- A conceptual study on tax gap estimation (June 2016);
- An estimate of the tax gap for Goods and Services Tax and Harmonized Sales Tax (June 2016);
- A report on personal income tax compliance in Canada (June 2017);
- A report on tax compliance of individuals in the international context (June 2018);
- A report on corporate income tax non-compliance (June 2019).

Building on CRA's previous tax gap reports, this report examines federal tax non-compliance related to excise duties, taxes, and other specific levies with an exclusive focus on tobacco excise duties imposed under the Excise Act, 2001. Given that producers that remit excise duties on tobacco products are highly regulated and are generally compliant according to CRA's compliance efforts in this industry, this report focuses on the illegal production of cigarettes by unlicensed manufacturers or smugglers who evade excise duties all together. This is because there are well-documented instances of an active illegal market of tobacco products in Canada and cigarette duties typically account for about 90% of the excise duty revenue from tobacco products for the federal government.

The CBSA is responsible for the collection of excise duty on imported tobacco products, control of imported tobacco products and the detection of tobacco products smuggled into Canada, primarily through border points. The RCMP is responsible for enforcement of the Excise Act, 2001, that involves non-licensees or licensees where criminal offences may apply.

To be consistent with CRA's previous tax gap reports, the federal cigarette duty gap is estimated for tax year 2014. The federal tax gaps related to cannabis excise duty and fuel charge are outside of the scope of this report since they were introduced in 2018 and 2019, respectively. However, they will be examined in a future tax gap report when the data become available. The federal cigarette duty gap is estimated to be around \$486 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.

In addition to this report, the CRA is also releasing another paper which estimates the payment gap for income taxes (personal and corporate), the GST/HST and excise duties and taxes. The CRA will continue to engage with interested stakeholders, the Parliamentary Budget Officer, and other external experts to further the CRA's work in estimating Canada's tax gaps. In 2021, an overall tax gap report will bring together all the components examined to date and update the tax gap figures up to tax year 2017. This overall tax gap report will also provide additional information on the impact of CRA audits in reducing the overall tax gap.

This report is organized as follows. Section 2 provides an overview of the excise duties and taxes in Canada, presents descriptive statistics on excise duties, taxes, and other specific levies, and outlines the scope of tax gap estimation presented in this report. Section 3 estimates the federal excise duty gap associated with cigarettes using two methods: gap analysis and econometric model. Section 4 provides a brief overview of CRA's compliance efforts related to the tobacco industry.

2. BACKGROUND

Excise duties and taxes (including other specific levies) are levies that are applied on a limited range of commodities and services. The purposes of excise duties and taxes are generally to raise revenue and to regulate specific products and services where there is a government or public interest (for example related to the environment or public health) to reduce the overall consumption of these products or services.

This section will provide an overview of excise duties and taxes in Canada (including other specific levies), present descriptive statistics, and outline the scope of the tax gap estimate presented in this report. The main obligations for taxpayers subject to these duties and taxes (commonly referred to as licensees and registrants) and federal excise duties and taxes rates are provided in Annex 1 of this report.

2.1 Excise Duties, Taxes, and Other Specific Levies

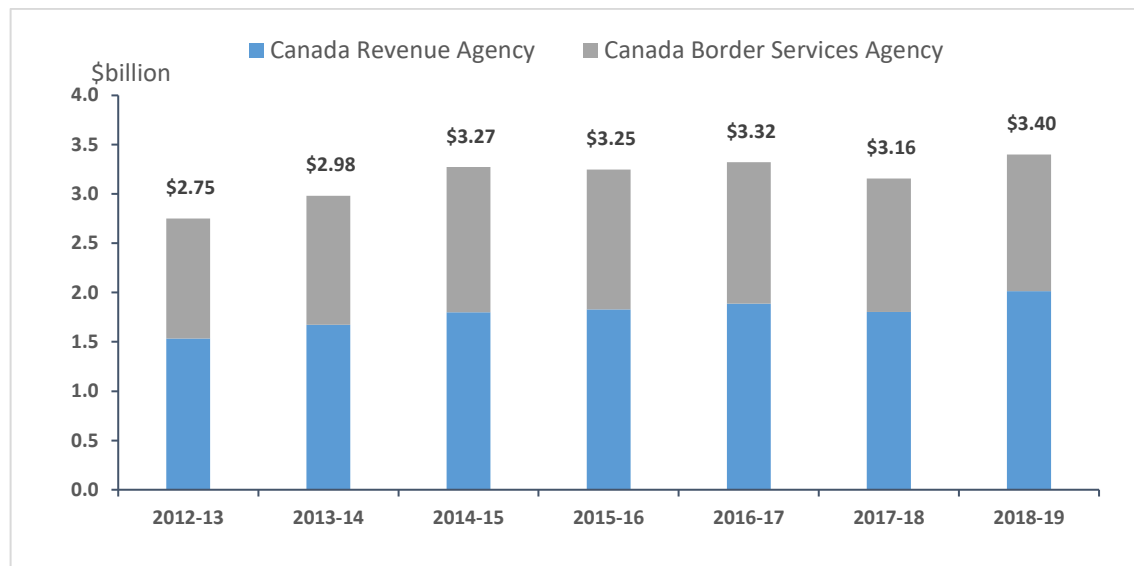
In Canada, there are both excise duties and excise taxes. Excise duties are imposed under the Excise Act and the Excise Act, 2001 and apply to tobacco, alcohol, and cannabis. Excise legislation imposes duties at the production level, and includes controls on importation, production, distribution and possession of aforementioned goods (tobacco, alcohol and cannabis). Excise taxes are imposed under the Excise Tax Act and apply primarily to diesel fuel and gasoline. There are other specific levies on certain products and services, such as air transportation services, insurance premiums, and certain fuels (see Annex 1 for more details).

As with previous tax gap reports, this section provides an overview of the particularities of the excise duties and taxes (including other specific levies). This overview allows for a better understanding of the context, notably that excisable products are highly regulated and there is little room for non-compliance. The only exception is the tobacco industry, where there is an active illegal market and therefore the tax gap estimation in this report focuses on the cigarettes only. More details on excise taxes, duties and other levies can be found in Annex 1.

Excise duties and taxes are generally not imposed directly on the consumer but are generally imposed on the products or services. The producer or importer of the goods remits the excise duty or tax. Excise duties and taxes are generally levied once after the product has been manufactured, packaged or has been imported. Therefore, they are distinct from sales taxes which are paid by both producers and consumers.

In general, the CRA collects excise duties and taxes for domestically manufactured products while the CBSA collects them for imported products. For example, Figure 1 shows the federal excise duty revenue from tobacco products collected by the CRA (for domestically manufactured tobacco products) and by the CBSA (for imported tobacco products). Where excisable goods are imported by excise licensees or registrants on a deferral or exempt basis, responsibility for verifying the final use of those goods transfers to the CRA.

Figure 1: Federal Tobacco Excise Duty Revenue by Government Agencies, 2012-13 to 2018-19



Source: Public Accounts of Canada, from 2013-14 to 2018-19.

Products that are subject to excise duties and taxes are highly regulated. Canadian companies manufacturing these products must obtain a licence and only licensees can legally produce excisable goods in Canada. Licensees normally report monthly on the products produced and remit the corresponding excise duty or tax to the CRA. Entities such as hospitals that are in possession of non-duty paid goods such as alcohols used to sanitize instruments, must register with the CRA.³

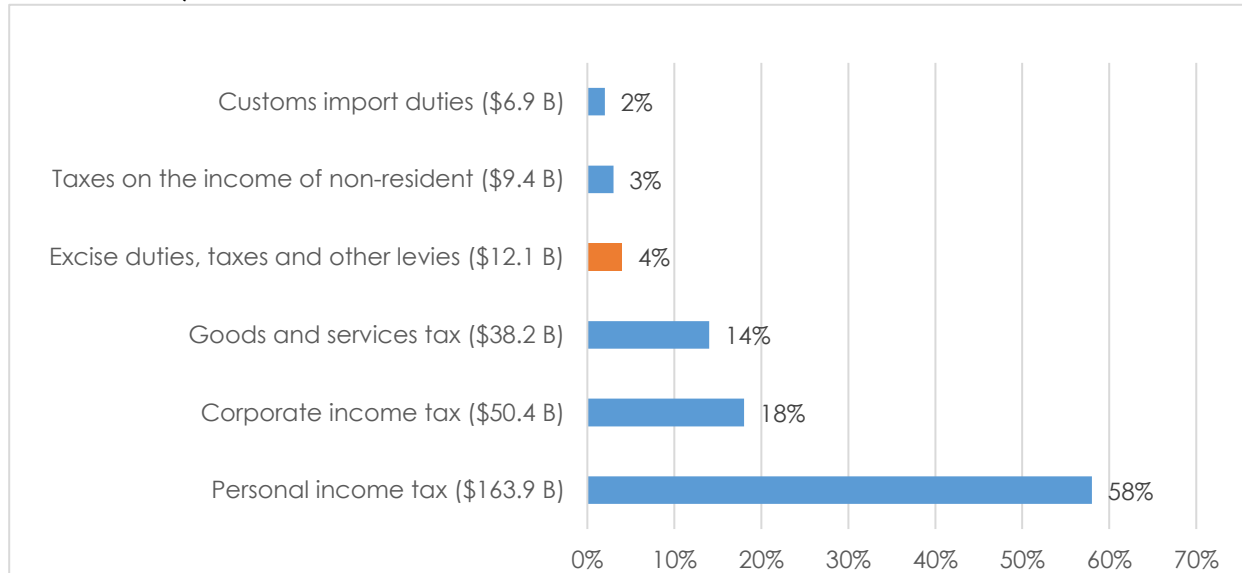
The CRA has a broad mandate with respect to excise duties and taxes. It not only collects revenue, but it also plays a key role in regulating domestic production. All licensees and certain registrants are subject to periodic audits by the CRA to verify, for example, reported quantities of goods manufactured, inventories, and/or sales, as well as excise liabilities calculated. The CRA also conducts regulatory reviews of licensees and registrants such as checking whether excise stamps are applied correctly to tobacco or cannabis products. All registrations and excise tax licences are valid until they are cancelled or suspended by the CRA.

³ In general, registrants under the Excise Act, 2001 do not have to file returns.

2.2 Descriptive Statistics on Excise Duties, Taxes, and Other Specific Levies

As shown in Figure 2, excise duties, taxes, and other specific levies are a relatively small source of tax revenue for the federal government representing about 4% of all federal tax revenue.

Figure 2: Share of Federal Excise Duties, Taxes, and Other Specific Levies in Total Federal Tax Revenue, 2018-19

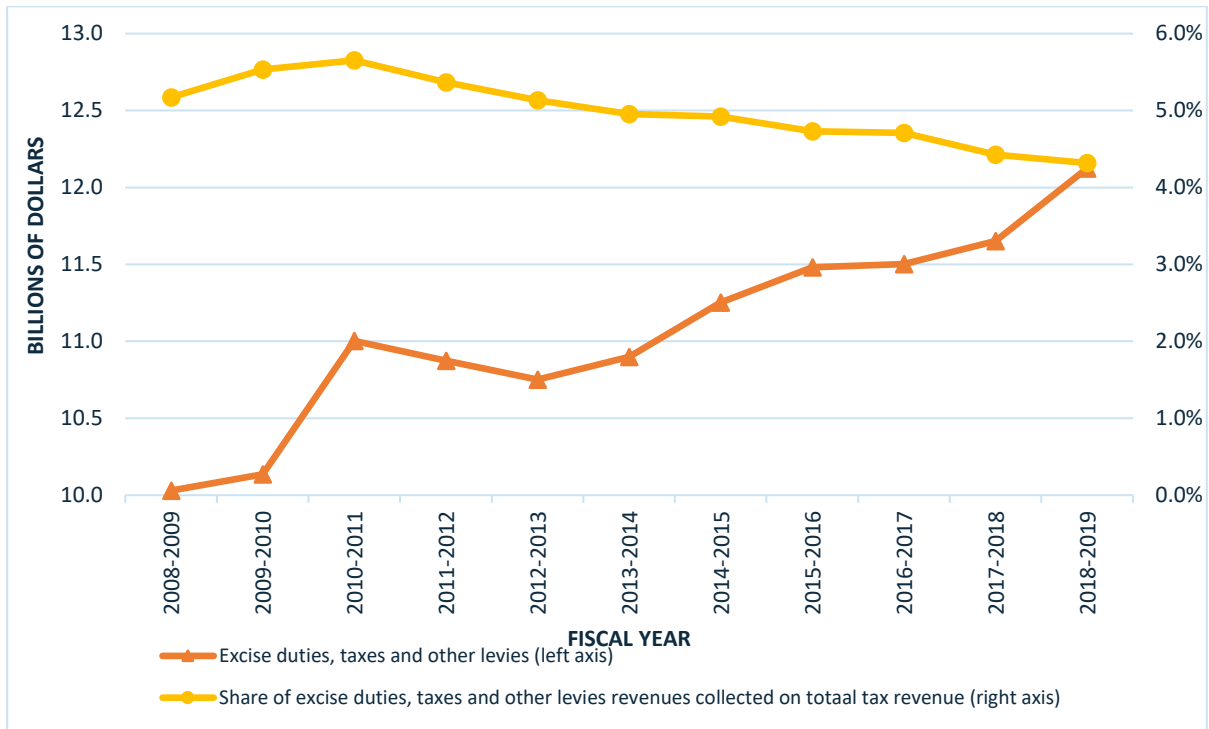


Source: Public Accounts of Canada of 2018-19.
* Numbers may not add to 100% due to rounding.

As shown in Figure 3, the total amount of federal excise duties, taxes, and other specific levies increased between 2008-09 and 2018-19 by an average annual growth rate of 2.0%.⁴ The share of federal excise duties, taxes, and other specific levies declined slightly as a share of total federal tax revenue over the same period as other sources of tax revenue increased at a faster rate. In 2018-19, federal excise duties, taxes, and other specific levies accounted for around \$12.1 billion in federal revenue.

⁴ This is the nominal average annual growth rate, i.e. not adjusted for inflation.

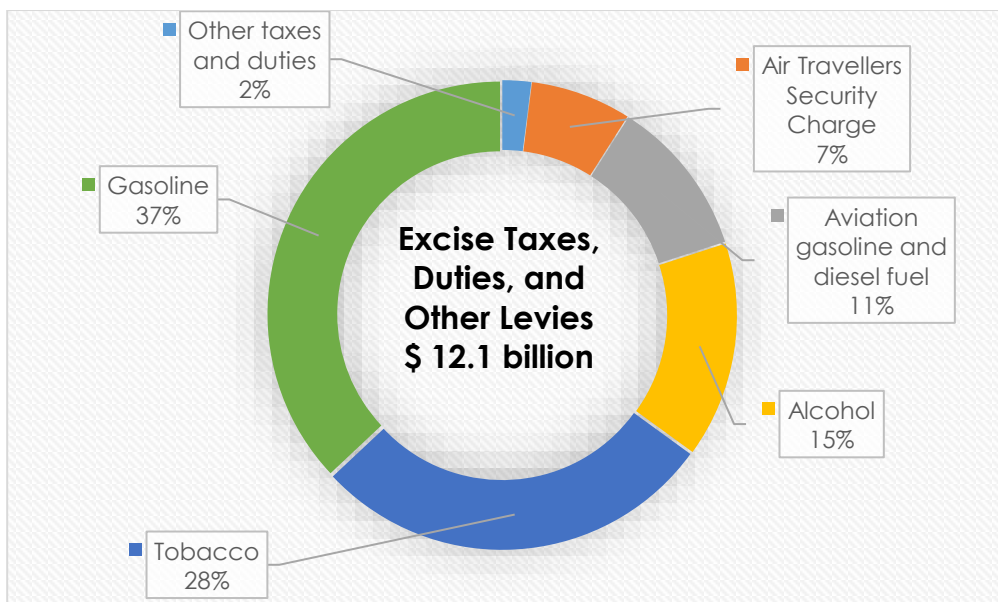
Figure 3: Total Federal Excise Duties, Taxes, and Other Specific Levies, 2008-09 to 2018-19



Source: Public Accounts of Canada, from 2009-10 to 2018-19.

In 2018-19, the federal revenue from excise duties, taxes and other specific levies came mainly from excise taxes on gasoline and excise duties on tobacco products (see Figure 4). These two products generated nearly 65% of the excise duty and tax revenue for the federal government.

Figure 4: Excise duties, taxes and other specific levies revenue by type, 2018-19



Source: Public Accounts of Canada of 2018-19.

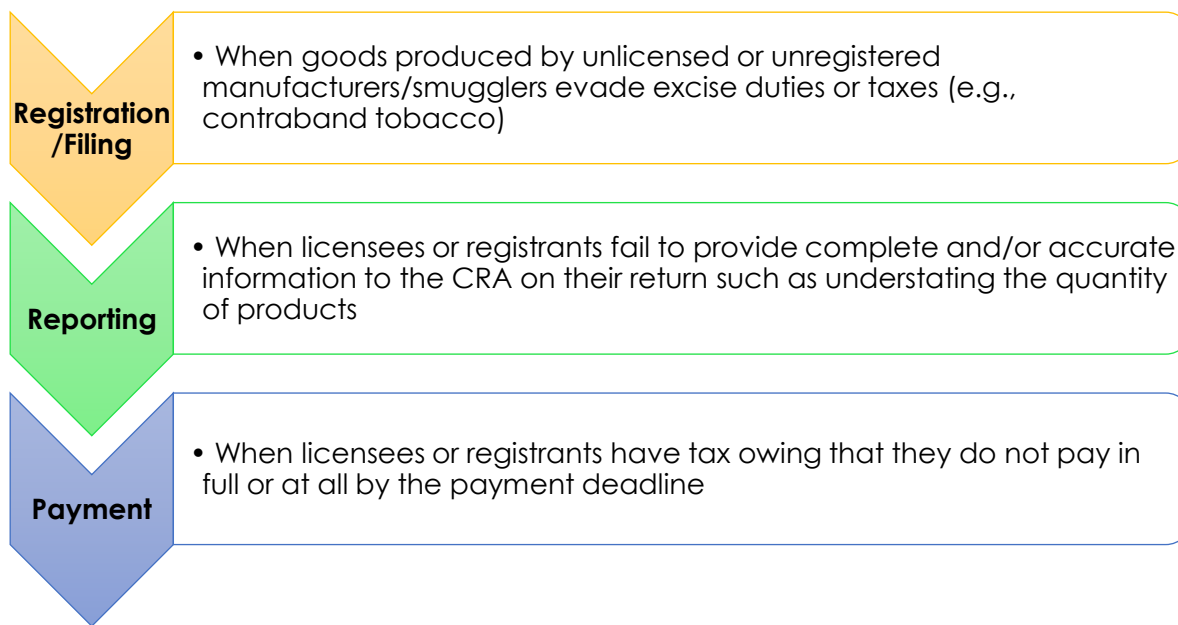
2.3 The Scope of Tax Gap Estimation

In general, non-compliance can occur at the time of filing, reporting, or paying taxes.

Registration/filing non-compliance occurs when taxpayers do not file their tax returns when they are required to do so. In the context of excise duties and taxes, the main source of registration/filing non-compliance occurs when goods from unlicensed or unregistered manufacturers/smugglers do not remit excise duties or taxes (e.g., contraband tobacco).

Reporting non-compliance occurs when taxpayers fail to provide complete and/or accurate information in their tax return by under-reporting income, over-stating deductions, and/or claiming credits they are not entitled to. In the context of excise duties and taxes for example, licensees and registrants may understate the quantity of produced products and are not assessed correctly. **Payment non-compliance** occurs when taxpayers have tax owing that they do not pay in full or at all by the payment deadline.

Figure 5: Types of Tax Non-Compliance in the Context of Excise Duties and Taxes



The tax gap analysis in this report focuses on capturing federal registration/filing non-compliance for tobacco products.

There are well-documented instances of an active illegal market of tobacco products in Canada.⁵ The illegal production of cigarettes by unlicensed producers is regarded as the main source of the excise duty revenue loss in Canada. This is important because cigarette duties typically account for about 90% of the excise duty revenue from tobacco products for the federal government.

This report does not estimate registration/filing non-compliance for other products subject to excise duties, taxes, and other specific levies because there is limited scope for

⁵ Royal Canadian Mounted Police, Contraband Tobacco Enforcement Strategy: Third Progress Report (2010-2011), Canada, 2013.

significant illegal production.⁶ This is due, in part, to the nature of the commodity (e.g. weight, volume, variety, consumer demand elements, and higher costs related to production) and the required production infrastructure, which is difficult to conceal from the authorities. Certain small producers in the alcohol industry are exempt from paying federal excise duties and have no incentives for non-compliance. In addition, home brewing and winemaking are permitted and not subject to federal excise duties. A significant level of smuggling or illicit production is also unlikely in the alcohol sector due to an expected low level of demand for unregulated products considering potential health risks for consumers. Therefore, while the underground economy for alcoholic beverages could impact the tax gap related to, for example, sales taxes at the point of consumption, it is not expected to have a national impact on the level of non-compliance related to excise duties (at the production phase).

Although the CRA's mandate is to regulate the legal tobacco market in Canada, the CRA works closely with federal partners, including the CBSA and the RCMP to support their enforcement efforts relative to contraband tobacco. The federal cigarette duty gap estimated in this report is not subject to CRA audits because the businesses or individuals involved in contraband are generally not licensees or registrants. That said, when contraband sales are uncovered, implicated parties are subject to the full extent of Canadian law either at the border or via the local or federal law enforcement bodies (e.g., RCMP). As well, entities who have been found to be producing illegal or contraband products subject to excise duties or taxes may be liable to penalties and fines, imprisonment or both. As such, the tax gap calculated in this report can be characterised as being a gross tax gap. It should be noted that there are no tax audits for unlicensed/non-filers from the illegal sector.

Finally, it is important to note that the average rate of federal excise duty on cigarettes increased by almost 21% in 2014 compared to 2013.⁷ This increase may have changed the overall level of consumption and sales of tobacco products in Canada. Consequently, this may have had an impact on the overall cigarette excise duty gap. To be consistent with CRA's previous tax gap reports, the federal cigarette duty gap is estimated for 2014.

⁶ While registration/filing non-compliance may exist for cannabis excise duties due to the existence of unregistered producers, it is outside the scope of this report since cannabis was legalized in October 2018 and the report focuses on 2014.

⁷ This increase to account for inflation since 2002 was announced in Budget 2014 and effective on February, 12, 2014.

Box 1: Tax Non-Compliance Estimates from Other Studies

In Canada, most studies on contraband tobacco have focused on estimating the market share of contraband tobacco with only a few studies examining the associated tax revenue loss. These latter studies have generally focused on estimating both federal and provincial tax loss (including sales taxes) from contraband tobacco, mainly in Quebec and Ontario. All of these estimates are similar to tax gap estimates, but they are more commonly referred to as tax revenue losses.

This report only estimates the **federal** component of the potential **excise duty** revenue loss from illegal production of **cigarettes** for tax year 2014. Therefore, the federal cigarette duty gap presented in this report is not directly comparable to most other studies.

For example, a report by the Canadian Taxpayers Federation (2016) found that the overall contraband tobacco trade in Ontario resulted in an estimated \$832.6 million to \$1.22 billion in lost federal and provincial tax revenue in 2014-15.⁸ As well, a C.D. Howe report (2017) estimated that illegal cigarette sales in 2014 resulted in tax revenue loss (federal and provincial excise duties and sales taxes) between \$816 million and \$900 million in Ontario and between \$85 million and \$93 million in Quebec.⁹ Based on the Government of Quebec website, it is also estimated that their provincial tax revenue loss (provincial sales taxes and excise duties) due to the illegal tobacco market was around \$125 million each year.¹⁰

⁸ Christine Van Geyn, "How much is contraband tobacco costing taxpayers in Ontario? A Look at the Cigarette Allocation System on Reserves and the Overall Contraband Problem in Ontario", Canadian Taxpayers Federation (2016), <http://www.taxpayer.com/media/CTF-ChristineVanGeyn-ContrabandTobaccoReport.pdf>.

⁹ Anindya Sen, "Smokes, Smugglers and Lost Tax Revenues: How Governments Should Respond Between", C.D. Howe Institute Commentary 471 (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2927815.

¹⁰ Revenu Québec, "Tax Evasion in the Tobacco Industry", Ensuring Tax Compliance, <https://www.revenuquebec.ca/en/fair-for-all/ensuring-tax-compliance/tax-evasion/tobacco-industry>.

3. ESTIMATING THE FEDERAL CIGARETTE DUTY GAP

This section estimates the federal excise duty gap associated with cigarettes, including those that are illegally produced in Canada as well as those that are smuggled from abroad. In selecting the methodology, the CRA chose a methodology using tax administrator's taxpayer data (e.g. accounting data, and assessment data) and a methodology using independent external data (usually national accounts data or other external data).¹¹ The estimate focuses on the illegal market for cigarettes which results in revenue loss (or an excise duty gap) because producers or smugglers of these cigarettes evade excise duties altogether. The CRA relied on administrative tax data and external data sources to produce two estimates of the federal cigarette duty gap.¹²

First, a **gap analysis** was used to estimate the magnitude of illegal consumption of cigarettes, relying on administrative tax data and survey data from Statistics Canada. The federal excise duty rate for cigarettes was then applied to the estimated illegal consumption of cigarettes to estimate the gap. Second, an adaptation of an approach used in a C.D. Howe Institute study¹³ (**econometric model**) was used to estimate illegal cigarette sales and the corresponding federal excise duty loss. Since the two estimates are relatively close in dollar value, an average was used (each was given equal weight).

The federal cigarette excise duty gap is estimated to be around \$486 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.¹⁴

The methodologies, results, and limitations of these two approaches are explained in greater detail below.

¹¹ For a review of methods or approaches for estimating the size of the tobacco illicit market, see Hana Ross, "Understanding and measuring tax avoidance and evasion: A methodological guide", *Tobacconomics*, (2015). Prepared for the Economics of Tobacco Control Project, School of Economics, University of Cape Town and *Tobacconomics*, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago.

¹² Note that RCMP data on cigarette seizures was not used in this report to measure the amount of smuggling as the data was not available at the time of writing this report. It also cannot be used to extrapolate the size of the illegal market of tobacco because the actual level of seizures seems negligible.

¹³ Anindya Sen, "Smokes, Smugglers and Lost Tax Revenues: How Governments Should Respond Between", *C.D. Howe Institute Commentary* 471 (2017).

¹⁴ Based on federal excise duties, taxes and other levies revenues for the 2014-15 fiscal year as published in the *Public Accounts of Canada* 2015-2016.

3.1 Gap Analysis

Gap analysis is a common method used to estimate tax non-compliance for tobacco products, including cigarettes.¹⁵ It is also aligned with the approach used by the United Kingdom to estimate the tax gap for excise duties on tobacco products.¹⁶ In general, this method estimates the potential consumption of illegal cigarettes by comparing total consumption levels with legal consumption levels. The excise duty rate is then applied to the assumed level of illegal consumption to estimate tax loss. This section provides an overview of the methodology, results, and potential limitations of the gap analysis approach.

3.1.1 Methodology

To estimate the cigarette duty gap arising from contraband, the first step was to estimate the potential magnitude of illegal consumption of cigarettes in Canada. Illegal consumption was estimated by taking the difference between total consumption and legal consumption of cigarettes in 2014.

$$\textit{illegal consumption} = \textit{total consumption} - \textit{legal consumption}$$

Legal consumption was based on 2014 administrative tax data from the CRA, CBSA and Health Canada. In particular, the number of tax-paid cigarettes was calculated using tax information from manufacturers in Canada, importers of cigarettes, and duty-free shops. In addition to tax-paid cigarettes, legal consumption also include roll-your-own (RYO) cigarettes. To estimate RYO cigarettes, we used cigarette fine-cut tobacco sales data, expressed in units of weight (kilograms), as reported by tobacco manufacturers to Health Canada. We have converted fine-cut tobacco sales into number of cigarettes using 0.75 gram conversion factor.¹⁷

Total consumption was estimated based on the total number cigarettes consumed in 2014 by the Canadian population (aged 15 years or older) based on the Canadian Community Health Survey (CCHS) for 2014 conducted by Statistics Canada. In particular, survey results related to smoking prevalence rates (percentage of smokers in Canada) and smoking intensity (average number of cigarettes smoked by daily and occasional smokers) were used. Since survey data is often subject to under-reporting, an uplift factor was used to correct for this bias.¹⁸ This report uses the 35% underreporting rate estimated by Guindon et al. (2017), corresponding to an uplift factor of 1.54 (see Annex 1 for details).¹⁹ This

¹⁵ Hana Ross, "Understanding and measuring tax avoidance and evasion: A methodological guide".

¹⁶ Her Majesty's Revenue and Customs. "Measuring tax gaps 2020 edition: Tax gap estimates for 2018-19." 2020.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904944/Measuring_tax_gaps_2020_edition.pdf

¹⁷ Silvano Gallus, Alessandra Lugo et al. "Roll-your-own cigarettes in Europe: use, weight and implications for fiscal policies", *European Journal of Cancer Prevention* 23, (2014):186-92.

¹⁸ See for example International Agency for Research on Cancer, "Handbooks of Cancer Prevention: Methods for Evaluating Tobacco Control Policies", *Tobacco Control* 12 (2008).

¹⁹ G Emmanuel Guindon et al., "Levels and trends in cigarette contraband in Canada", *Tobacco control*, 26(5) (2017): 518-525.

adjustment is consistent with the United Kingdom's approach to estimating their cigarette excise duty gap.²⁰

The **federal cigarette duty tax gap** was then estimated by multiplying the average federal cigarette duty rate (for five cigarettes) by the magnitude of the illegal consumption (number of illegal cigarettes).

$$\text{federal cigarette duty gap} = \text{illegal consumption} \times \text{federal cigarette duty rate}/5$$

Additional details on the methodology are provided in Annex 1.

3.1.2 Results

In 2014, there were 29.7 million people in the total Canadian population aged 15 or older²¹. According to CCHS data, 14% of this population were estimated to be daily smokers and 5% were non-daily smokers. Based on this, the average number of cigarettes consumed in 2014 was estimated to be 22.85 billion, before correcting for the under-reporting bias.

After applying an uplift factor of 1.54 to account for the under-reporting bias, it is estimated that around 35.15 billion cigarettes were smoked in 2014. Based on administrative tax data, around 30.46 billion cigarettes were consumed legally in 2014. Therefore, the illegal consumption accounts for an estimated 4.69 billion cigarettes or 13% of total consumption in 2014²².

Applying the average federal duty rate for cigarettes in 2014 (\$0.514 per five cigarettes) to the 4.69 billion illegal cigarettes, the federal cigarette duty gap is estimated to be about \$483 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of the overall federal excise duties, taxes and other specific levies revenue.²³ Figure 6 summarizes the estimation of the federal cigarette duty gap using gap analysis.

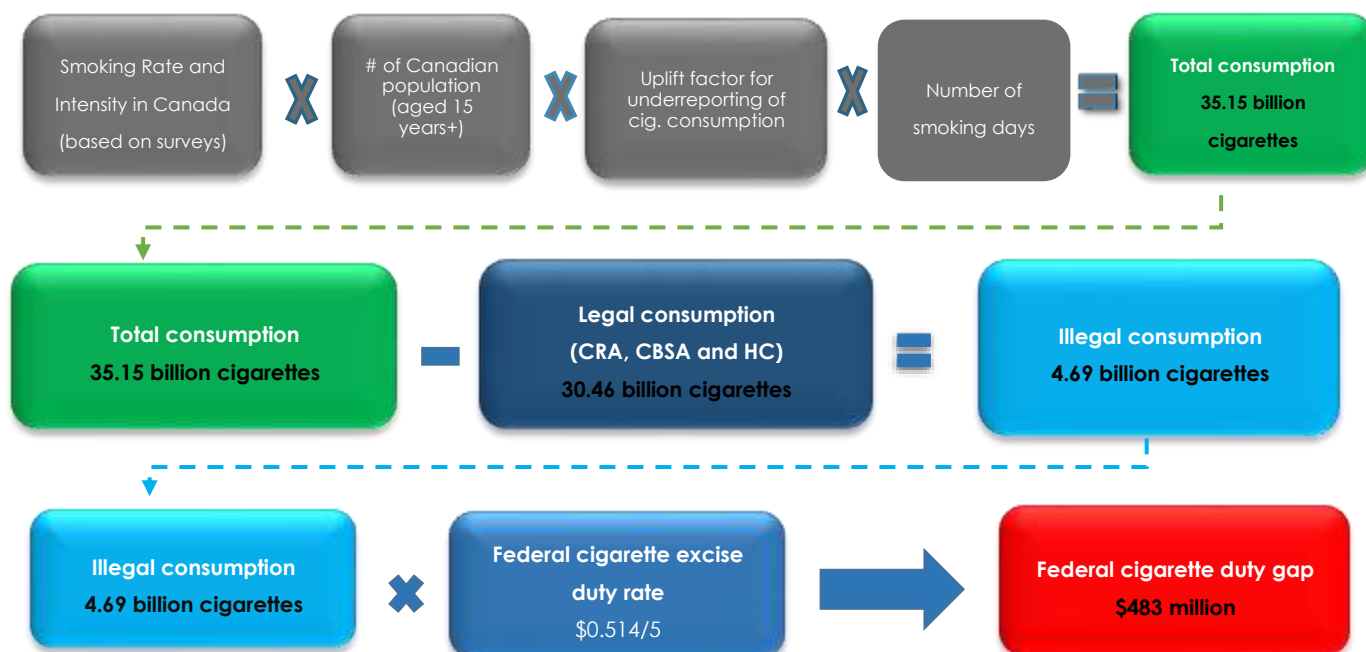
²⁰ Her Majesty's Revenue and Customs, 2020.

²¹ Statistics Canada. Table 17-10-0005-01 Population estimates on July 1st, by age and sex. <https://doi.org/10.25318/1710000501-eng> (accessed June 4, 2019).

²² Numbers may not add up due to rounding.

²³ Based on federal excise duties, taxes and other levies revenues for the 2014-15 fiscal year as published in the Public Accounts of Canada, 2015-16.

Figure 6: Estimation of the Federal Cigarette Duty Gap using Gap Analysis*



* Numbers may not add up due to rounding.

3.1.3 Limitations

There are a few general limitations to gap analysis.

- This report focused on individuals living in Canada aged 15 or older and therefore, it does not account for those under the age of 15 or visitors to Canada who are smokers.²⁴ However, this consumption is minor compared to overall consumption.
- In addition, legal consumption was estimated using administrative tax data which reflects sales or deliveries to wholesalers rather than direct consumers of cigarettes.²⁵
- Although legal consumption captures most cigarette sales in Canada, it does not include all cigarettes purchased from abroad, such as cigarettes purchased by travellers returning to Canada.

The most important limitation of this method is that it is quite sensitive to the assumption which determines the uplift factor used to estimate total consumption of cigarettes. In this report, it is assumed that 35% of cigarettes were unaccounted for in the survey data in 2014 due to under-reporting by survey respondents. However, if this assumption is modified, the federal cigarette duty gap is subject to significant change (see the sensitivity analysis in Annex 1 for more details). Therefore, an alternative approach (econometric model) was also used to confirm that the federal cigarette duty gap estimate was reasonable.

²⁴ This age group cut-off was used because it is consistent with other studies that examine cigarette consumption, especially in the context of gap analysis.

²⁵ Although these would be generally aligned over time, there may be remaining stock or inventory that is not consumed in the same year.

3.2 Econometric Model

The second method is based on the approach developed by the CD Howe (2017) and uses publicly available data from Statistics Canada and Health Canada to estimate legal sales (considered as a proxy to total demand for cigarettes) that should have occurred if the level of contraband cigarettes was very low.²⁶ To estimate the level of illegal cigarette sales, the difference was taken between estimated legal sales (based on data for years when consumption was very low) and actual legal sales. The federal excise duty rate for cigarettes is then applied to the estimated illegal sales to calculate the cigarette excise duty gap. This section provides an overview of the methodology, results of the econometric model, and potential limitations.

3.2.1 Methodology

The first step of the econometric model examines the relationship between factors that explain cigarettes consumption, such as cigarette price and disposable income, and legal cigarette sales during a time when there was a low level of contraband cigarettes (1996-2004).²⁷ These explanatory factors were then used to estimate legal cigarette sales for Canada's six most populous provinces: Ontario, Quebec, British Columbia, Alberta, Saskatchewan, and Manitoba.²⁸

The estimation results from the first step were then used to predict the potential amount of legal cigarette sales for other years (due to the limited presence of contraband during step one). Therefore, the second step of the econometric model estimates legal sales that should have occurred during 2005-2017 if the level of contraband cigarettes was very low and the relationship between cigarette sales and its determinants remains constant over time. But, due to the presence of contraband, the estimated legal sales are higher than the actual legal sales recorded during these years. Therefore, subtracting actual legal sales from the estimated legal sales provides an estimate of illegal cigarette sales.

$$\textit{illegal sales} = \textit{estimated legal sales} - \textit{actual legal sales}$$

To estimate the federal cigarette excise duty gap, the average federal duty rate for cigarettes for 2014 (for five cigarettes) was applied to the estimated number of illegal cigarettes in 2014.

²⁶ Data used are publicly available on Statistics Canada's website and the Healthy Living publication from Health Canada. [Details are presented in bibliography.](#)

²⁷ Based on the existing literature on cigarette consumption, it is assumed that there was a low rate of illegal cigarettes in Canada during this period. See: Anindya Sen, "Smokes, Smugglers and Lost Tax Revenues: How Governments Should Respond Between" and Jonathan Gruber et al., "Estimating price elasticities when there is smuggling: the sensitivity of smoking to price in Canada", *Journal of health economics* 22, (2003): 821-842. Nevertheless, we also tested the periods 1996-2002 and 1996-2003, i.e. assumed a resurgence of contraband before 2004, but this was not conclusive from the point of view of econometric modeling.

²⁸ These provinces were selected because these provinces had a low rate of contraband cigarette sales during 1996-2004. There were certain data limitations for other provinces/territories.

$$\text{federal cigarette duty gap} = \text{illegal sales} \times \text{federal cigarette duty rate}/5$$

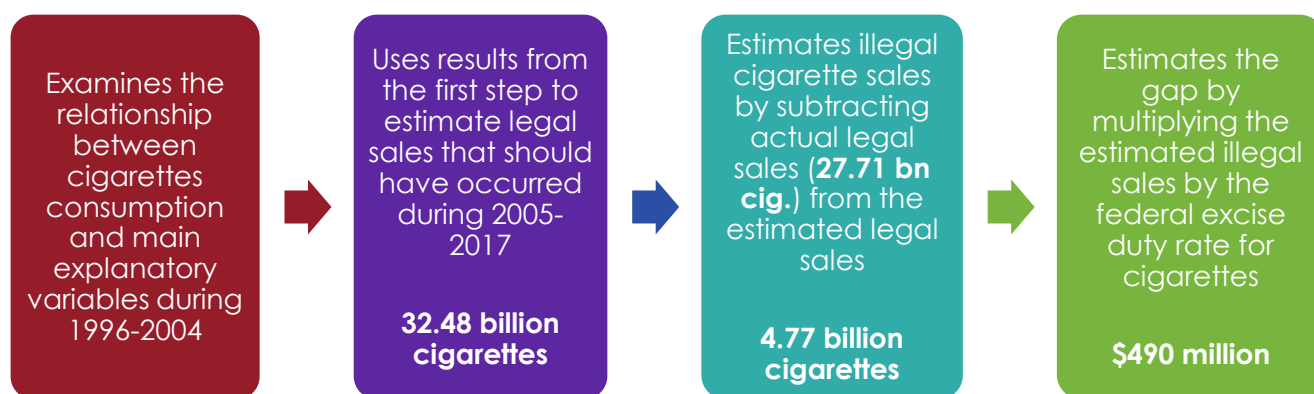
Additional details on the methodology is provided in Annex 2.

3.2.2 Results

Based on the results from the econometric model, it was estimated that there should have been around 32.48 billion cigarettes that were legally sold in 2014, if the level of contraband was low (as in the 1996 to 2004 period). However, records of actual legal cigarette sales indicate that around 27.71 billion cigarettes were sold in 2014.²⁹ Therefore, it is estimated that around 4.77 billion cigarettes were sold illegally.

After applying the average federal duty rate in 2014 to the number of illegal cigarettes, the federal cigarette duty gap is estimated to be \$490 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.³⁰ Figure 7 summarizes the estimation of the federal cigarette duty gap using an econometric model.

Figure 7: Estimation of the Federal Cigarette Duty Gap using an Econometric model*



* Numbers may not add up due to rounding.

3.2.3 Limitations

The econometric modelling method has certain limitations.

- First, the tax gap estimate can vary depending on the explanatory factors chosen to estimate the total consumption of cigarettes. To reduce bias, multiple sets of explanatory factors were used to estimate potential legal cigarette sales (and many more were tested). See Annex 3 for details.

²⁹ Health Canada, Wholesale sales data: cigarette and fine-cut sales, from 1980 to 2014.

<https://www.canada.ca/en/health-canada/services/publications/healthy-living/wholesales-sales-data-cigarette-fine-cut-sales-canada-1980-2014.html>

³⁰ Based on federal excise duties, taxes and other levies revenues for the 2014-15 fiscal year as published in the Public Accounts of Canada of 2015-16.

- Second, the tax gap estimate could be higher if the assumption that illegal cigarette sales were low during the 1996 to 2004 period is invalid.
- Third, the structural relationship between cigarette sales and its determinants might have changed between 1996-2004 and 2005-2017 periods.
- Finally, the tax gap estimate is based on the econometric results from six provinces. However, this limitation is expected to be relatively minor since the six provinces analyzed represent 92% of total legal cigarette sales in 2014.³¹

3.3 Average Federal Cigarette Duty Gap Estimate

To recap, the federal cigarette duty gap estimate from gap analysis was \$483 million for tax year 2014. Using an econometric model, the second method estimated the federal cigarette duty gap to be around \$490 million. Since the two estimates are relatively close in dollar value, an average was used (each was given equal weight). **Therefore, the federal cigarette excise duty gap is estimated at \$486 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.**

Of note, this federal cigarettes duty gap may not be completely recoverable since smokers of illicit tobacco may reduce their consumption if they have to pay cigarettes at a higher legal price that includes tobacco duty, when all illicit cigarettes become legal.

It is very difficult to know how the contraband market in Canada will evolve due to the many changes that have been observed in recent years. There is a declining trend in the smoking rate that is likely to continue. At the same time, cigarette prices have risen sharply in recent years, mostly as a result of tax increases on tobacco products put in place by the various levels of government. Finally, it should also be noted that there was an increase in the consumption of electronic cigarettes or vaping in recent years.

³¹ Health Canada, National and provincial/territorial tobacco sales data, from 2001 to 2017. https://www.canada.ca/en/health-canada/services/publications/healthy-living/federal-provincial-territorial-tobacco-sales-data/page-2.html#CIG_can

4. THE CRA'S COMPLIANCE EFFORTS IN THE TOBACCO INDUSTRY

Globally, tax compliance is a key priority for the Government to ensure that taxpayers meet their tax obligations and receive applicable credits and benefits. In the context of excise duties, taxes, and other specific levies, the CRA also strives to ensure the proper regulation of excisable products. Therefore, the CRA's activities (a) ensure that excise duties, taxes, and other specific levies are properly reported and remitted on products based on legislative requirements, (b) ensure revenues reported but deferred or exempt from payment meet legislative requirements, and (c) regulate the production, storage, and movement of products subject to excise duties in cooperation with other federal departments and agencies.

In the context of the tobacco industry, the CRA's responsibilities is to ensure compliance with the Excise Act, 2001, which governs federal tobacco taxation and regulates certain activities related to the manufacturing, possession, and sale of tobacco products. The CRA conducts audits and regulatory reviews of tobacco manufacturers and distributors licensed under legislation and ensures that the stamping and marking requirements are met.

The CBSA is responsible for the collection of excise duty on imported tobacco products, control of imported tobacco products and the detection of tobacco products smuggled into Canada, primarily through border points. The RCMP is responsible for enforcement of the Excise Act, 2001, that involves non-licensees or licensees where criminal offences may apply. This section will provide an overview of compliance efforts specifically related to tobacco products, including the CRA's work with other federal organizations such as the CBSA, Health Canada, and the RCMP.

4.1 The CRA's Compliance Efforts in the Legal Sector

The CRA's Excise Duty Program ensures that tobacco licence applications are reviewed thoroughly to ensure that they meet the eligibility requirement set out in the Excise Act, 2001 and the Regulations Respecting Excise Licenses and Registrations. Tobacco licences must be renewed at minimum of every two years. Excise officers will review the applicant's:

- Business plan for reasonableness and to ensure the correct licence is being sought;
- Financial resources to determine financial capabilities to operate;
- Application to ensure it is complete;
- CRA records to determine if there are concerns related to past compliance; and
- Amount of security posted to ensure it is adequate to cover the highest expected monthly duty to be paid in a year.

As well, the excise officer will:

- Request a criminal background check; and

- Conduct a visit of the premises to verify the information on the application and the business plan.

To ensure that Canada's tobacco legislation is applied effectively, the CRA works with other government departments and agencies including the RCMP, CBSA and Department of Justice. In addition, the CRA's tobacco taxation activities play an important role in Canada's Tobacco Strategy (CTS), which is a comprehensive federal initiative led by Health Canada to reduce tobacco consumption among Canadians. The CRA receives additional funding under the CTS which allows the CRA to conduct full audits of each tobacco licensee every year. Furthermore, it allows the CRA to conduct a minimum of eight regulatory review visits per location, based on risk assessment and compliance history. In particular, regulatory reviews may include verification of exports, inventories of raw materials, and other specific production and reporting activities.

Box 2: Federal Excise Stamping Regime

The CRA also contributes to fulfilling Canada's obligations under the World Health Organization Framework Convention on Tobacco Control. CRA compliance activities and federal excise stamping regime are examples. Tobacco excise stamps containing overt and covert security features are affixed to packages of tobacco products to indicate the excise duties have been paid on the product.

The federal excise stamping regime for tobacco products works on the basis that:

- All users of the stamp must be CRA approved;
- All orders of stamps must be approved by the CRA;
- All stamps are supplied by a single CRA approved provider;
- Authorized users of the stamp are accountable for the stamps they receive.

There are different stamps depending on the quantity, tobacco type, and jurisdiction the tobacco products are destined for. The appropriate stamp must be applied at the time of packaging in Canada or prior to importation of the tobacco product into Canada. There are penalties for illegal possession and use of stamps and it is generally an offence to possess tobacco products in the duty paid market that do not bear the excise stamp.

4.2 The CRA's Cooperation with Other Federal Departments and Agencies

The CRA also consults with provinces and territories, the Department of Finance, Health Canada and other federal departments and agencies on the development of administrative and legislative proposals related to tobacco control and taxation. The CRA has held and continues to hold the Chair of the Federal-Provincial-Territorial Tobacco Steering Committee for several years.

Finally, the CRA assists the RCMP and the Department of Justice by providing technical expertise and administrative enforcement services. Examples include providing affidavits and/or expert court witness testimony that an accused holds or does not hold a licence or has any legal reason to possess unstamped tobacco or to explain the workings of the excise tobacco regulatory framework to a court.

The vast majority of tobacco licensees comply with their tax obligations. In general, non-compliance is primarily a result of smuggling or unlicensed tobacco production.

Box 3: Compliance in the Tobacco Sector by Other Federal Organizations

In Canada, federal regulation and control of tobacco (including enforcement related to the illegal tobacco market) is primarily governed by three legislations: the Excise Act, 2001, the Customs Act, and the Tobacco and Vaping Products Act. In addition, Canada's Tobacco Strategy focuses on reducing disease and death due to tobacco use under the leadership of Health Canada.³² For example, Health Canada is responsible for developing policies related to tobacco control, developing and maintaining international agreements on tobacco control, developing regulations under the Tobacco and Vaping Products Act (TVPA), monitoring industry compliance with the TVPA, and undertaking enforcement activities.³³ From the perspective of tobacco excise duty compliance, federal partners include:

Public Safety Canada

Public Safety Canada monitors tobacco smuggling activities and related crimes to support policy development, including providing strategic information and advice to portfolio partners (RCMP and CBSA) on the state of the contraband tobacco market.³⁴

Royal Canadian Mounted Police

The RCMP is responsible for the enforcement of laws within Canada related to the international movement of goods and investigates the illicit production, distribution, or possession of contraband tobacco. The RCMP is also responsible for monitoring and assessing the illicit market through tobacco seizures, sharing information on seizures, and investigating illicit tobacco activities. In addition, the RCMP prepares an annual report on the contraband tobacco market.

³² For an overview of Canada's Tobacco Strategy: Health Canada, Overview of Canada's Tobacco Strategy: <https://www.canada.ca/en/health-canada/services/publications/healthy-living/canada-tobacco-strategy/overview-canada-tobacco-strategy.html>.

³³ Health Canada and the Public Health Agency of Canada, Evaluation of the Federal Tobacco Control Strategy 2012-2013 to 2015-2016, January 2017. <https://www.canada.ca/en/health-canada/corporate/transparency/corporate-management-reporting/evaluation/2012-2013-2015-2016-federal-tobacco-control-strategy.html>.

³⁴ For more details: Public Safety Canada, Contraband Tobacco: <https://www.publicsafety.gc.ca/cnt/cntrng-crm/cntrbnd-tbcc/index-en.aspx>.

Canada Border Services Agency

The CBSA is responsible for the collection of excise duty on tobacco products imported into Canada and to detect and prevent the smuggling of tobacco products into Canada. In addition, the CBSA monitors the domestic and international contraband tobacco market. For example, it prepares reports on the contraband tobacco market on a regular basis for the Department of Finance.

CONCLUSION

This report examined tax non-compliance related to excise duties, taxes, and other specific levies. For 2018-19, excise duties, taxes, and other specific levies accounted for around \$12.1 billion in federal revenue, representing about 4% of all federal tax revenue. Excise taxes on gasoline and excise duties on tobacco products generated nearly 65% of the excise duty and tax revenue for the federal government.

The scope of this tax gap estimation is to capture federal tax revenue loss from the illegal production or smuggling of cigarettes by unlicensed producers. It does not estimate registration/filing non-compliance for other products subject to excise duties, taxes, and other specific levies because there is limited scope for significant illegal production. To be consistent with CRA's previous tax gap reports, the federal cigarette duty gap is estimated for tax year 2014.

Relying on two methods of estimation, **the federal cigarette duty gap is estimated to be \$486 million for tax year 2014. This represents 16% of cigarette excise duty revenue, or about 4% of overall federal excise duties, taxes and other specific levies revenue.**

Combining the federal cigarette duty gap with other tax gap components previously published by the CRA increases Canada's federal tax gap by around half a billion dollars for tax year 2014. **Canada's federal tax gap for tax year 2014 is estimated to be between \$20.1 billion and \$24.3 billion or between 9.2% and 11.2% of corresponding revenues - before considering the impact of audits** (see Table 1). The payment tax gap figures are not included in the following table and cannot be directly added to those estimates without special methodological considerations.

Table 1: Canada’s Federal Tax Gap Estimates Before Audit for Tax Year 2014 (excluding payment gap)

Tax Gap Component	Federal Tax Gap Estimate Before Audit	% of Corresponding Revenues*
Goods and Services Tax	\$2.9 billion <i>(after audit)</i>	7.1%
Domestic Personal Income Tax	\$6.5 billion	5.4%-7.0%
International Personal Income Tax	\$0.8-\$3.0 billion	
Corporate Income Tax	\$9.4-\$11.4 billion <i>(\$3.3-\$5.3 billion after audit results)</i>	24%-29% <i>(8%-13% after audit results)</i>
Excise Duty and Tax**	\$0.5 billion	4.3%
Total Tax Gap to Date	\$20.1 – \$24.3 billion	9.2% – 11.2%

* Percentages of corresponding revenues are based on federal tax revenues from the 2014-15 fiscal year as published in the Public Accounts of Canada 2015-2016.

** The tax gap for excise duty and tax focuses on the non-filing/non-registration gap. Currently, the excise duty and tax gap measures foregone tax revenue from illegal production or smuggling of cigarettes. This figure will be updated as the CRA measures foregone revenues from other excise duties and taxes.

Note: All amounts are in nominal dollars.

CRA’s compliance efforts have been instrumental in maintaining a high level of compliance in the tobacco industry. In addition, the CRA works with federal partners, including the CBSA and the RCMP to provide support and assistance in their efforts to combat contraband tobacco.

In addition to this report, the CRA is also releasing a companion paper which estimates the payment gap for income taxes (personal and corporate), the GST/HST and excise duties and taxes. In 2021, an overall tax gap report will bring together all the components examined to date and update the tax gap figures up to tax year 2017. This overall tax gap report will also provide additional information on the impact of CRA audits in reducing the overall tax gap. Through an ongoing effort to understand different components of Canada’s tax gap, the CRA will continue to preserve the integrity of the tax system and protect Canada’s revenue base that supports programs and benefits that improve the quality of life for all Canadians.

ANNEX 1: ADDITIONAL INFORMATION ON EXCISE DUTIES, TAXES AND OTHER LEVIES

A1.1 Excise Duties

Table A1 and A2 below provide an overview of excise duty rates effective April 1, 2020.³⁵

Table A1: Summary of Federal Excise Duty Rates

		2020*
Product		Rate
Tobacco		
Cigarette and tobacco sticks – per 5 cigarettes/tobacco sticks		\$0.62104
Cigars	per 1,000 cigars	\$27.03346
	Additional duty on cigars, the greater of <ul style="list-style-type: none"> • \$0.09717 per cigar, and • 88%, computed <ul style="list-style-type: none"> – on the sale price, in the case of cigars manufactured in Canada, OR – on the duty-paid value, in the case of imported cigars. 	
Manufactured tobacco (other than cigarettes) – per 50 grams		\$7.76299
Raw leaf tobacco – per kilogram		\$1.572
Alcohol		
Spirits**	Not more than 7% of absolute ethyl alcohol by volume	\$0.319
	More than 7% of absolute ethyl alcohol by volume	\$12.610
Beer – per litre***	Not more than 1.2% of absolute ethyl alcohol by volume	\$0.02794
	More than 1.2%, but not more than 2.5%, of absolute ethyl alcohol by volume	\$0.1683
	More than 2.5% of absolute ethyl alcohol by volume	\$0.3366
Wine – per litre****	Not more than 1.2% of absolute ethyl alcohol by volume	\$0.021
	More than 1.2%, but not more than 7%, of absolute ethyl alcohol by volume	\$0.319
	More than 7% of absolute ethyl alcohol by volume	\$0.665

Source: CRA – Excise Duty Rates. <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/edrates/excise-duty-rates.html>.

* Rates are effective April 1st, 2020.

** For spirits of not more than 7% of absolute ethyl alcohol by volume, the rate is per litre. For spirits of more than 7% of absolute ethyl alcohol by volume, the rate is per litre of absolute ethyl alcohol.

*** These are regular rates. Rates are discounted depending on production of the brewery, for example the rate is discounted 90% on the first 2,000 HI of beer produced.

**** Wine produced from 100% Canadian agricultural products and small wineries who do not sell more than \$50,000 of wine packaged in Canada in a year, do not remit excise duty but still have reporting obligations.

³⁵ E-cigarettes or vaping products that do not contain solid tobacco particles are not currently subject to excise duties and not covered by this report.

Table A2: Federal Cannabis Duty Rates

Product		2020*	
		Rate	
Cannabis		Flat-rate	Ad valorem**
Dried/fresh cannabis	Cannabis duty		
	per gram of flowering material	\$0.25	2.5%
	per gram of non-flowering material	\$0.075	
	Additional cannabis duty***		
	per gram of flowering material	\$0.75	7.5%
	per gram of non-flowering material	\$0.225	
Cannabis plants and cannabis plant seeds	Cannabis duty		
	per plant	\$0.25	2.5%
	per seed	\$0.25	
	Additional cannabis duty***		
	per plant	\$0.75	7.5%
	per seed	\$0.75	
Cannabis oil, edible cannabis, cannabis extracts and cannabis topicals	Cannabis duty		
	per milligram of total THC	\$0.0025	0%
	Additional cannabis duty***		
	per milligram of total THC	\$0.0075	0%

Source: CRA – Excise Duty Rates. <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/edrates/excise-duty-rates.html>.

* Rates are effective April 1st, 2020.

** The excise duty for cannabis products is the maximum between the ad valorem rate the and flat rate, where applicable, without any sales tax adjustments.

*** There are no additional cannabis excise duty in Manitoba as it is not a signatory of the Coordinated Cannabis Taxation Agreement with the federal government.

Under the Excise Act, 2001, licences for products subject to excise duties are issued for a maximum period of two years. Licensees must reapply not less than 30 days from the date of expiry in order to be considered for renewal. Possession, usage, storage, or transportation of non-duty paid alcohol products sometimes also requires registration under the Excise Act, 2001.³⁶

Under the Excise Act, brewery licensees must also pay an annual licence fee.

³⁶ Excise Act, 2001: <https://laws-lois.justice.gc.ca/eng/acts/E-14.1/page-1.html>

A1.2 Excise Taxes

Table A3 provides an overview of excise tax rates in 2020 for products subject to excise taxes.

Table A3: Summary of Federal Excise Tax Rates

	2020*
Product	Rate
Fuel	
Gasoline and aviation gasoline – per litre	\$0.10 - \$0.11
Diesel fuel and aviation fuel – per litre	\$0.04
Fuel-inefficient vehicles – per vehicle	\$1,000.00 - \$4,000.00
Air conditioner – per unit	\$100.00

Source: CRA – Excise Tax Rates. <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/currate/current-rates-excise-taxes.html>.

* These rates are in place since April 2008.

Unlike the excise duty licensees, licensed manufacturers under the Excise Tax Act do not need to apply every two years to renew their excise tax licence. As well, small Canadian manufacturers with total annual sales below \$50,000 are not obliged to obtain a licence nor pay the excise tax to the CRA.³⁷

A1.3 Other Specific Levies

In addition to excise duties and taxes, other specific levies are imposed on certain products and services such as air transportation services, insurance premiums, and certain fuels. They are briefly discussed below.

Air Travellers Security Charge

Under the Air Travellers Security Charge Act, all designated air carriers that provide air transportation services to individuals that include a chargeable emplanement must collect a charge.

This charge varies depending on the destination, the type of connection or stopover, and whether the GST/HST is applied or not to the rate.³⁸ The charge can range from \$7.12 to \$25.91.

Transport Canada is responsible to identify airlines that must be registered by the CRA.

Insurance Premium Tax

A 10% federal tax is applied to certain insurance premiums such as those that are placed with authorized insurers outside Canada or purchased through a broker or agent outside of

³⁷ For all full list of exemptions, see Excise Tax Act: <https://laws-lois.justice.gc.ca/eng/acts/E-15/>

³⁸ For more information, see: <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/atcrates/air-travellers-security-charge-atsc-rates.html>

Canada.³⁹ This tax is the oldest excise tax and mainly affects corporations buying insurance.⁴⁰

Fuel Charge

The federal carbon pollution pricing system was introduced in 2019 through the Greenhouse Gas Pollution Pricing Act. The CRA only administers Part I of this Act which contains the fuel charge.⁴¹ This fuel charge will increase progressively from \$30 per tonne of carbon pollution in 2020, to \$50 per tonne in 2022. It is payable by producers, certain users, or distributors of fossil fuels. Currently, the fuel charge only applies to provinces or territories that do not have a carbon pricing mechanism in place. These provinces and territories were Saskatchewan, Manitoba, Alberta, Ontario, Nunavut, and Yukon. Proceeds from the fuel charge are currently returned to the individuals living in Ontario, Manitoba, Saskatchewan and Alberta through the Climate Action Incentive Payment. The payment can be claimed when individuals file their personal income tax returns. For Nunavut and Yukon, who voluntarily adopted the federal system, the proceeds are returned directly to the governments of those jurisdictions.

³⁹ While the federal insurance premium tax is under the Excise Tax Act, this paper has classified it under other specific levies.

⁴⁰ The following services are excluded from the excise tax: life insurance, personal accident insurance, sickness insurance or insurance against marine risks, or any contract of insurance against nuclear risks to the extent that the insurance against nuclear risks is not, in the opinion of the Commissioner, available within Canada.

⁴¹ Part II introduces an output-based pricing system for industrial facilities and is administered by Environment and Climate Change Canada.

ANNEX 2: GAP ANALYSIS

Gap analysis is a method often used to estimate tax non-compliance related to contraband cigarettes.⁴² To estimate the federal cigarette duty gap arising from contraband, four steps are taken.

Step 1: Total Consumption Estimate

The total reported consumption was calculated based on the total number of cigarettes consumed by the Canadian population aged 15 or older⁴³ based on the Canadian Community Health Survey (CCHS) conducted by Statistics Canada.⁴⁴ In particular, survey results related to smoking prevalence rates (percentage of smokers in Canada) and smoking intensity (average number of cigarettes smoked per day by daily and occasional smokers) were used. It is assumed that the cigarette consumption habits of the population excluded from CCHS sampling frame are identical to those of the rest of the Canadian population aged 15 years and older.⁴⁵ The total reported consumption was the summation of reported consumption from daily smokers and occasional smokers.

$$\text{reported consumption} = \text{number of smokers} \times \text{consumption intensity}$$

Where:

$$\begin{aligned} \text{number of smokers} &= \text{population 15 and over} \times \text{smoking prevalence rate} \\ &= \text{average number of cigarettes smoked per day} \times \text{number of smoking days} \end{aligned}$$

Since survey data on smoking prevalence is often subject to under-reporting, an uplift factor was applied to correct for this bias. Under-reporting can generally occur when respondents:

- Indicate they are a non-smoker when they are a smoker;
- Indicate they are an occasional smoker when they are a frequent or daily smoker, and/or;
- Inaccurately report the number of cigarettes consumed per day.

⁴² Hana Ross, "Understanding and measuring tax avoidance and evasion: A methodological guide".

⁴³ See Statistics Canada. Table 17-10-0005-01 Population estimates on July 1st, by age and sex.

DOI: <https://doi.org/10.25318/1710000501-eng>

⁴⁴ Statistics Canada, "The Canadian Community Health Survey: Annual component (2014)", <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&id=164081> and Statistics Canada.

Smoking rate and average number of cigarettes smoked by type of smoker, Canada, population of 15 and older, Annual Average (table). 2014 Canadian Community Health Survey – Annual Component, 2020.

⁴⁵ The CCHS excludes 3% of the population mainly residents of Indian reserves and other Aboriginal settlements, full-time members of the Canadian Forces and the institutionalized population.

$$\text{uplift factor} = \frac{1}{1 - \text{underreporting rate}}$$

Therefore:

$$\text{total consumption} = \text{total reported consumption} \times \text{uplift factor}$$

Step 2: Legal Consumption Estimate

Legal consumption in Canada was calculated based on administrative tax data from the CRA, the CBSA and Health Canada. The number of tax-paid cigarettes was estimated using tax information from manufacturers in Canada, importers of cigarettes, and duty-free shops⁴⁶. In addition to tax-paid cigarettes, legal consumption also include roll-your-own (RYO) cigarettes. To estimate RYO cigarettes, we used cigarette fine-cut tobacco sales data, expressed in units of weight (kilograms), as reported by tobacco manufacturers to Health Canada. The number of cigarettes that have expired or have been exported are subtracted since there are quantities for which producers or importers are entitled to claim reimbursements (referred to as "refunds").

$$\text{legal consumption} = \text{domestic production} + \text{imports} + \text{RYO cigarettes} - \text{refunds}$$

Step 3: Illegal Consumption Estimate

Illegal consumption was estimated by taking the difference between total consumption and legal consumption of cigarettes.

$$\text{illegal consumption} = \text{total consumption} - \text{legal consumption}$$

Step 4: Federal Cigarette Duty Gap Estimate

To estimate the federal cigarette excise duty gap, the average federal duty rate for cigarettes for 2014 (for five cigarettes) was applied to the estimated number of illegal cigarettes in 2014. The average federal duty rate corresponds to the average of the official duty rates on daily basis between January 1st and December 31st, 2014.

$$\text{federal cigarette duty gap} = \text{illegal consumption} \times \text{federal cigarette duty rate}/5$$

Where:

$$\text{federal cigarette duty rate} = \$0.514 \text{ per five cigarettes}$$

⁴⁶ As previously mentioned, we focus on cigarettes for which duties typically account for about 90% of the excise duty revenue from tobacco products for the federal government and vaping is not in the scope of this study.

Sensitivity Analysis

The federal cigarette duty gap estimate under gap analysis relied on the assumption that around 35% of cigarette consumption was not captured by Statistics Canada's survey data. As shown in Table A4, the tax gap estimate was found to be quite sensitive to this assumption. For illustrative purposes, we chose two values below the 35% underreporting rate and two values above it to demonstrate the degree of sensitivity. Given the sensitivity to this assumption, an econometric approach was also used (see Annex 3) to confirm that an uplift factor of 1.54 was reasonable.

Table A4: Sensitivity Analysis with Changes to the Under-Reporting Assumption*

Under-Reporting Assumption	Uplift Factor	Total Consumption Estimate (billion cigarettes)	Illegal Consumption Estimate (billion cigarettes)	Federal Cigarette-Duty Tax Gap Estimate (\$ million)
25%	1.33	30.47	0.00	\$0,00
30%	1.43	32.68	2.18	\$224
35%	1.54	35.15	4.69	\$483
40%	1.67	38.08	7.62	\$784
45%	1.82	41.55	11.08	\$1,139

* Figures may not add due to rounding.

ANNEX 3: ECONOMETRIC MODEL

The second method is an econometric model which uses publicly available data from Statistics Canada and Health Canada to estimate legal sales that should have occurred if the level of contraband cigarettes was very low. This methodology builds on the approach used by the C.D. Howe Institute (2017) to estimate contraband cigarette sales in Ontario and Quebec.⁴⁷ To estimate the federal cigarette duty gap arising from contraband, four steps are taken.

Step 1: Estimate Legal Cigarette Sales during 1996-2004

The first step of the econometric model examines the relationship between explanatory variables, such as cigarette price and disposable income, and cigarette sales per capita during a time when there was a low level of illegal cigarette sales (1996-2004).⁴⁸ To be consistent with the gap analysis method, the econometric model also examined individuals aged 15 or over in Canada and included RYO cigarettes sales estimated from wholesales data. The list of the explanatory factors used are presented in Box A1.⁴⁹ Using a regression model, these explanatory factors were used to estimate legal cigarette sales for Canada's six most populous provinces: Ontario, Quebec, British Columbia, Alberta, Saskatchewan, and Manitoba.⁵⁰

Box A1: List of Explanatory Variables

The list of explanatory variables tested in the regression model used are:

- consumer price index for cigarettes;
- ratio of individuals between 45-65;
- rate of new lung cancers ;
- ratio of immigration;
- alcohol expenditures;
- disposable income;
- percentage of families below the low income cut-off;
- provincial dummy variables (to account for provincial differences);
- variables that control for time (for example to correct for autocorrelation).

Some explanatory variables (e.g. population over 65 years old, unemployment rate and GDP per capita) were also used but were not significant in all of the regressions. Therefore, we excluded them from our final specifications.

⁴⁷ Anindya Sen, "Smokes, Smugglers and Lost Tax Revenues: How Governments Should Respond Between".

⁴⁸ Based on the existing literature on cigarette consumption, it is assumed that there was a low rate of illegal cigarettes in Canada during this period. See: Anindya Sen, "Smokes, Smugglers and Lost Tax Revenues: How Governments Should Respond Between". And Jonathan Gruber et al., "Estimating price elasticities when there is smuggling: the sensitivity of smoking to price in Canada", *Journal of health economics* 22, (2003): 821-842.

⁴⁹ Method of moments through Yule-Walker equations was used to estimate the coefficients to adjust for autocorrelation. Cigarette sales per capita, disposable income and cigarette price were adjusted to a logarithmic scale.

⁵⁰ These provinces were selected because these provinces had a low rate of contraband cigarette sales during 1996-2004. There were certain data limitations for other provinces/territories.

Step 2: Estimate Legal Cigarette Sales during 2005-2017

The estimation results from the first step can be used to predict the potential amount of legal cigarette sales for other years as if there was a limited presence of contraband during that period. Therefore, the second step of the econometric model estimates legal sales that should have occurred during 2005-2017 if the level of contraband cigarettes was very low.

Step 3: Estimate Illegal Cigarette Sales in 2014

Due to the presence of contraband, the estimated legal sales is higher than the actual legal sales recorded during 2005-17. Therefore, subtracting actual legal sales from the estimated legal sales results in an estimate of illegal cigarette sales.

$$\textit{illegal sales} = \textit{estimated legal sales} - \textit{actual legal sales}$$

To be consistent with previously published tax gap reports, illegal sales was estimated for 2014.

Step 4: Estimate Federal Cigarette Duty Gap

To estimate the federal cigarette excise duty gap, the average federal duty rate for cigarettes for 2014 (for five cigarettes) was applied to the estimated number of illegal cigarettes in 2014.

$$\textit{federal cigarette duty gap} = \textit{illegal sales} \times \textit{federal cigarette duty rate}/5$$

Where:

$$\textit{federal cigarette duty rate} = \$0.514 \textit{ per five cigarettes}$$

GLOSSARY

Term	Definition
Air Travellers Security Charge	The federal charge applied on certain air transportation services.
Audit	The examination of taxpayers' books and records to verify the taxes, interest and penalties payable under the law.
Average Federal Cigarette Duty Rate	The average federal duty rate corresponds to the average of the official duty rates on daily basis between January 1 st and December 31 st of the tax year analyzed.
Climate Action Incentive Payment	Payment amounts for residents of provinces that have not adopted the federal system or otherwise met the federal stringency requirements for pricing carbon pollution: Ontario, Manitoba, Saskatchewan and Alberta. Individuals should claim these amounts through their personal income tax returns.
Cigarette	It includes any roll or tubular construction intended for smoking, other than a cigar or a tobacco stick.
Compliance Activities	Activities undertaken by the CRA to ensure taxpayers comply with their tax obligations. Activities includes audits, regulatory reviews and outreach visits.
Daily Smoker	Individual who smoke at least one cigarette per day.
Disposable Income	The income available to an individual after taxes are paid and transfers are received.
Domestic Production	The production by companies located in Canada and subject to excise duties or taxes (e.g., gasoline, tobacco or wine).

Econometric Model	Approach used to estimate illegal cigarette sales in this report. In the first step, the model estimates factors predicting cigarette consumption. In the second step, the model uses these estimates to predict cigarette consumption and compare it with legal cigarette sales.
Excise Duty or Tax	A levy on production and importation of certain goods. The most common goods subject to excise duty or tax are tobacco products, alcoholic drinks, and fuel products (e.g., gasoline).
Federal Duty Gap	Federal revenue losses resulting from products (imports or domestic production) for which excise duties have not been paid. It represents the difference between actual excise revenue and potential excise revenue.
Fuel Charge	A fixed charge on certain fuels payable by producers, certain users, or distributors of fossil fuels. The fuel charge only applies in provinces or territories that do not have a carbon pricing mechanism in place.
Gap Analysis	A method used to estimate tax non-compliance by estimating the difference between total or actual consumption of a product and tax-paid sales.
Illegal Consumption	The consumption of a goods for which the federal excise duties or taxes have not been paid.
Illegal Production	The production of goods by unlicensed or unregistered manufacturers/importers to which federal excise duties or taxes were not applied.
Legal Consumption	The consumption calculated based on administrative tax data from the CRA and the CBSA.
Legal Sales	The sales reported by tobacco manufacturers to Health Canada as required by law, including shipments to wholesalers or retailers.

Insurance Premium Tax	A specific levy applied to certain insurance premiums such as those that are placed with authorized insurers outside Canada or purchased through a broker or agent outside of Canada.
Occasional Smoker	Individuals who smoke at least one cigarette during the period of 30 days, but not every day.
Refund	A refund to a business or an individual for duty or taxes that have been overpaid, incorrectly paid or meet specific exemptions/ refund conditions, such as cigarettes that have expired and have been destroyed in a manner authorized by the CRA.
Regulatory Review	A compliance examination of licensee or registrant's activities that may include spot checks of records, internal controls, or compliance with regulations or excise policies. Not an audit on its own, but may provide certain information or assurances to be used in a full audit.
Sales Tax	A tax charged on the sale of a product or service and collected by the government at the provincial or national level. For example, the Harmonized Sales Tax or the Quebec Sales Tax.
Smoking Intensity	The average number of cigarettes smoked in a given time period by daily and occasional smokers.
Smoking Prevalence Rate	The ratio of the number of smokers in a specified group (daily or occasional smokers) on the total population aged 15 or older. This is also referred to as the "smoking rate".
Specific Levies	In addition to excise duties and taxes, specific levies are applied on certain products and services such as air transportation services, insurance premiums, and certain fuels.
Tax Compliance	A taxpayer is compliant when they provide accurate, timely information to the CRA, and pay all their outstanding tax liabilities on time.

Tax Gap	The tax gap represents the difference between the taxes that would be paid if all obligations were fully met in all instances, and the tax actually paid and collected.
Tax Non-Compliance	Tax non-compliance is a broad term that encompasses revenue loss by federal government from tax evasion and other factors that contribute to the tax gap, such as taxpayer error and unpaid debt.
Total Consumption	The consumption by the population aged 15 or older estimated based on data from Statistics Canada's Canadian Community Health Survey.
Underground Economy (UE)	The UE is commonly understood as economic activity or income that is purposely hidden from public authorities, which can include working under the table or skimming (when revenues are under-reported or costs over-reported to understate net income).
Under-Reporting Rate	The extent to which survey respondents understate their answers to a specific question (e.g., reporting lower cigarette consumption).
Uplift Factor	An adjustment to the data to correct for bias. In the context of federal cigarettes duty gap, it is used to account for the underreporting of tobacco consumption.

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